

Tracheoesophageal fistula with subcutaneous emphysema induced by endotracheal tube

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Introduction

Complications of the intubation procedure are common which include aspiration, esophageal intubation, dental injury, bronchospasm and pneumothorax, but tracheoesophageal fistula is rare. This case is a 78 years old woman who subcutaneous emphysema without pneumothorax after intubation, posterior wall of tracheal injury during intubation which present tracheoesophageal fistula later.

Case presentation

A 78 year old woman with a history of hypertension and type 2 diabetes mellitus was diagnosed community acquired pneumonia at right lower lobe with acute respiratory failure. Endotracheal tube intubation was performed at emergency room, and she was transfer to MICU. Severe subcutaneous emphysema over whole chest, abdomen wall and upper limbs were noted in next day. Chest x-ray revealed severe subcutaneous emphysema and no visible pneumothorax. Chest computed tomography (CT) found subcutaneous emphysema, pneumomediastinum, and suspected a defect at the upper third of tracheal posterior wall. Family refused surgical intervention and request conservative treatment, therefore endotracheal tube was pushed bypass the defect and adjust the setting of ventilator for avoid secondary barotrauma. Chest and abdomen subcutaneous emphysema were progressive improvement few days later. Bronchoscope was performed which found tracheoesophageal fistula at the upper third of tracheal. Conservative treatment and survival was presentation in this patient.

Discussion

Formation of tracheoesophageal fistula in an intubated patient is rare. Trauma present almost in the procedure of intubation. Evaluation the possible of tracheoesophageal fistula generally involves an esophagram using water-solute contrast, panendoscope or bronchoscopy. Surgical correction is the definitive procedure of choice for tracheoesophageal fistula, but conservative treatment is indicated for the patient who not suitable surgical therapy.

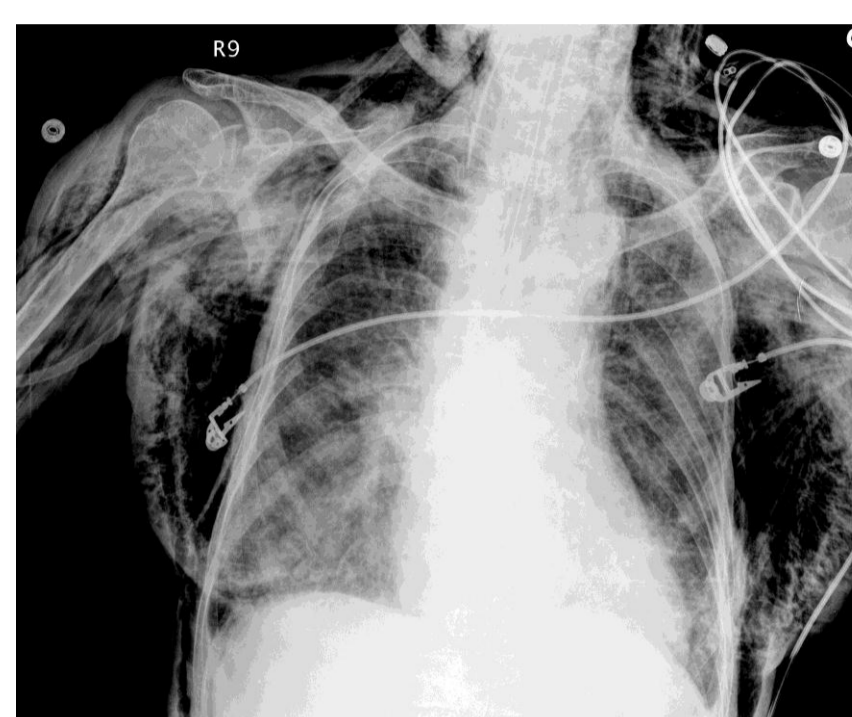


Figure 1

Chest x-ray reveal severe subcutaneous emphysema on the first day. (figure 1.) Chest CT show subcutaneous emphysema and pneumomediastinum, suspect a laceration lesion at the left side of trachea (figure 2,3.)



Figure 2

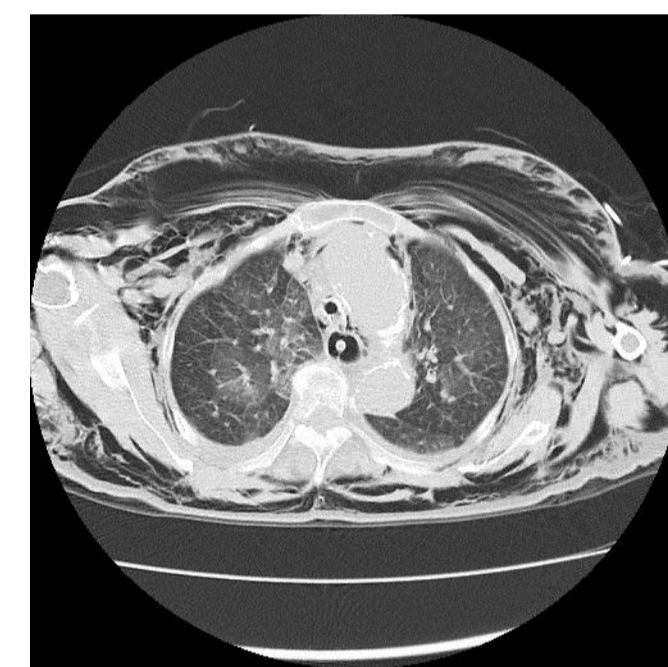


Figure 3



Figure 4

Chest x-ray reveal resolve of subcutaneous emphysema few days later. (figure 4.) Chest CT confirm a laceration lesion at the left side of trachea about 1 month ago. (figure 5,6.)



Figure 5



Figure 6



Figure 7

Bronchoscopy find a defect at the posterior wall of trachea. (figure 7.)



Figure 8

Panendoscopy find a balloon like material at the upper third of esophagus. (figure 8.)



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